Revision number:                                      Purchasing Agent: Debbie Gundersen
                                                                              (801) 538-3150

## Item:   Field ITS Ethernet Switches

Vendor:  970047A                          RuggedCom, Inc.
                                          64 Jardin Drive
                                          Unit 3G
                                          Concord, ON L4K3P3


Internet Homepage:                        www.ruggedcom.com


Telephone:                                (905) 760-7799 ext. 229


Fax number:                               (905) 760-9909


Contact:                                  Nora Midence


Email address:                            noramidence@ruggedcom.com


Brand/trade name:                         Rugged Com/Rugged Switch
Price:                                    See Attached
Terms:                                    Net 30
Effective dates:                          06/01/05 through 05/31/07
Days required for delivery:               14 days after receipt of order
Price guarantee period:
Minimum order:                            6 Units
Min shipment without charges:             F.O.B. Destination
Renewal Options:                          Potential renewals through 05/31/2010

NEW CONTRACT

This is a Multiple Award Contract.  Please review the following contract for optimal pricing, delivery and service before making your purchasing decision:  MA1893 (Mountain States Networking).

This contract covers only those items listed in the price schedule.  It is the responsibility of the agency to ensure that other items purchased are invoiced separately.  State agencies will place orders directly with the vendor (creating a PG in Finet) and make payments for the same on a PV referencing the original PG.  Agencies will return to the vendor any invoice which reflects incorrect pricing.

**Attachments B1 & B2**
**Solicitation DG5520**
**Field ITS Ethernet Switch Additional Bid Items**

| Item | Description | Model/Product No. | Delivery Time (Days) | Unit(e.g. each) | Unit Price |
|------|-------------|-------------------|----------------------|-----------------|------------|
| 1 | 6 10/100Base-TX Ports, 2 100Base-FX (SMF ports with LC connectors) | RS8000T-HI-SM-MS | 14 | Each | $930.00 |
| 1a | 6 10/100Base-TX Ports, 2 100Base-FX (SMF ports with LC connectors) | RS900-HI-D-L2L200 | 14 | Each | $850.00 |
| 1b | 6 10/100Base-TX Ports and up to 3 100BaseFX ports(SMF and/or MMF) in various configurations-Call for details and pricing | RS900-HI-D-????? | Call | Each | Call |
| 2a | Media Converters-100Base-TX to 100Base-FX(MMF-1300nm compatible) | RMC-HI-TXFXMM | 14 | Each | $450.00 |
| 2b | Media Converters-100Base-TX to 100Base-FX(SMF-1300nm compatible) | RMC-HI-TXFXSM | 14 | Each | $650.00 |
| 2c | Media Converters-100Base-FX(MMF-1300nm) to 100Base-FX(SMF-1300nm) | RMC40-HI-MJL2 | 14 | Each | $630.00 |
| 3a | Field Mini-hub Ethernet Switch(GBIC) 6 10/100Base-TX(UTP) ports 10 100Base-FX(SMF) ports 0 1000Base-X(SMF) ports | RSG2100 (See attached "product detail" for part numbers) | 14 | Each | $4515.00 |
| 3b | Field Mini-hub Ethernet Switch(GBIC) 6 10/100Base-TX(UTP) ports 10 100Base-FX(SMF) ports 1 1000Base-X(SMF) ports | RSG2100 (See attached "product detail" for part numbers) | 14 | Each | $4740.00 |
| 3c | Field Mini-hub Ethernet Switch(GBIC) 6 10/100Base-TX(UTP) ports 10 100Base-FX(SMF) ports 2 1000Base-X(SMF) ports | RSG2100 (See attached "product detail" for part numbers) | 14 | Each | $4965.00 |
| 4 | Multimode Fiber/Single Mode Fiber Switch | RS8000-HI-SM-4-MS | 14 | Each | $3829.00 |
| 5 | Serial Device Server Integrated Switch | RS400(See attached "product detail" for part numbers) | 14 | Each | $1665.00 |
| 6 | Field Terminal Server | RS400(See attached "product detail" for part numbers) | 14 | Each | $1289.00 |
| 7 | Central Ethernet Management Software | RuggedVue | 14 | Each | $18500.00 |
| 12 | Serial Device Server/Integrated switch-single-mode Fiber | RS400(See attached "product detail" for part numbers) | 14 | Each | $2195.00 |
| 13 | Field Ethernet Switch with Gigabit fiber uplink ports | RS900G(See attached "product detail" for part numbers) | 14 | Each | $1469.00 |

| | | | | | |
|---|---|---|---|---|---|
| 14 | Field Ethernet Switch with Gigabit fiber uplink ports-25km long reach optics | RS900G(See attached "product detail" for part numbers) | 14 | Each | $1695.00 |
| 15 | Field Ethernet Switch with SFP Pluggable Gigabit Slots-**Optical Transceivers NOT included** | RS900G(See attached "product detail" for part numbers) | 14 | Each | $1131.00 |
| 16 | SFP Pluggable Optical Transceiver- 10Km | 25-10-0100 | 14 | Each | $230.00 |
| 17 | SFP Pluggable Optical Transceiver- 25Km | 25-10-0101 | 14 | Each | $420.00 |
| 18 | SFP Pluggable Optical Transceiver- 40Km | 25-10-0108 | 14 | Each | $1140.00 |
| 19 | SFP Pluggable Optical Transceiver- 70Km | 25-10-0109 | 14 | Each | $1600.00 |
| 20 | SFP Pluggable Optical Transceiver-single mode/single strand of fiber-1310nm TX/1490nm RX- 10Km | 25-10-0202 | 14 | Each | $310.00 |
| 21 | SFP Pluggable Optical Transceiver-single mode/single strand of fiber-1490nm TX/1310nm RX- 10Km | 25-10-0203 | 14 | Each | $310.00 |
| 22 | RSG2100 Main chassis | 12-11-0001-F | 14 | Each | 1,200.00 |
| 23 | 85-264 VAC power supply for RSG2100 | 12-10-0008-P1 | 14 | Each | N/C |
| 24 | 2-port 10/100BaseTX module for RSG2100 | 12-11-0002-S*N* | 14 | Each | $65.00 |
| 25 | 2-port 100BaseFX single mode module for RSG2100 with LC connectors | 12-11-0004-S*N* | 14 | Each | $600.00 |
| 26 | 2 Port 100BaseFX multi-mode module for the RSG2100 with ST connectors | 12-11-0007-S*N* | 14 | Each | $375.00 |
| 27 | 2 port 1000LX GBIC (Pluggable Gigabit Module)For Slot 5 only *Module only optical transceivers sold separately* | 12-11-0019-S5 | 14 | Each | $230.00 |
| 28 | 1 port 1000LX GBIC (Pluggable Gigabit Module) For Slot 6 only. *Module only optical transceivers sold separately* | 12-11-0020-S6 | 14 | Each | $189.00 |
| 29 | 1 1000LX GBIC pluggable optical transceiver- Single Mode LC, Standard Reach 10km, 1310nm | 25-10-0102 | 14 | Each | $230.00 |
| 30 | 1 1000LX GBIC pluggable optical transceiver- Single Mode LC, Long Reach 25km, 1310nm | 25-10-0103 | 14 | Each | $420.00 |

**RFP**
**Solicitation #DG5520-1**
For
**Field ITS Ethernet Switch**
**Detailed Descriptions/Part Numbers**
**For Attachments B1 and B2**

Item #1: The complete part number for Item #1, the Field ITS Ethernet Switch is RS8000T-HI-SM-MS

**\***Item #1a: Item#1a, the RS900-HI-D-L2L200 is proposed as a possible alternative to the RS8000T as the Field ITS Ethernet switch. The RS900-HI-D-L2L200 features the same port configuration as the RS8000T, it is just a newer, smaller switch with not as many references in the field. The RS900 also does not support 'Port security' as referenced in Section 2.3.5.3.2 of the RFP.

Item #1b The RS900 is available in a variety of configurations. All models have at least 6 10/100Base-TX ports and can have 0, 1, 2 or 3 100Base-FX fiber ports(single mode fiber, multi-mode fiber, or a combination of single mode and multi-mode fiber). The pricing will vary depending on the number and type of 100Base-FX ports requested

Item #2a: The complete part number for Item #2a is RMC-HI-TXFXMM and will include a power cord and 1 multimode fiber jumper cable to provide connection to ST connectors

Item #2b: The complete part number for Item #2b is RMC-HI-TXFXSM and will include a power cord

Item #2c: The complete part number for Item #2c is RMC40-HI-MHL2 and will include a power cord and 1 multimode fiber jumper cable to provide connection to ST connectors

Item #3a: The model number for Item #3a is the RSG2100. The RSG2100 is a modular platform And the unit that matches item #3a is configured with 6 10/100BaseTX ports, 10 100BaseFX Single Mode Fiber ports and a module with 2 1000Base-LX Single Mode GBIC ports(optical transceivers not included and must be ordered separately). The line items necessary to make this configuration are listed below:

    12-11-0001-F (RSG2100 Main Chassis)
    12-10-0008-P1 (85-264VAC power supply for RSG2100)
    14-11-0004 (rack mount kit for RSG2100)
    12-11-0002-S1,2,3 (3 10/100Base-TX modules with 2 ports each configured in
            slot #s 1, 2, & 3 of the RSG2100)
    12-11-0004-S4,7,8,9,10 (5 100BaseFX single mode fiber modules with 2 LC ports
            each configured in slot #s 4,7,8,9 & 10 of the RSG2100)
    12-11-0019-S5 (2 port GBIC module WITHOUT optical transceivers configured in
            slot #5 of the RSG2100)

Item #3b: The model number for Item #3b is the RSG2100. The RSG2100 is a modular platform And the unit that matches item #3b is configured with 6 10/100BaseTX ports, 10 100BaseFX Single Mode Fiber ports and a module with 2 1000Base-LX Single Mode GBIC ports with one pluggable 1000Base-LX Single mode optical transceiver. The line items necessary to make this configuration are listed below:

12-11-0001-F  (RSG2100 Main Chassis)
12-10-0008-P1 (85-264VAC power supply for RSG2100)
14-11-0004 (Rack mount kit for RSG2100)
43-10-0007  (6 foot long 18 gauge power cable)
12-11-0002-S1,2,3 (3 10/100Base-TX modules with 2 ports each configured in
slot #s 1, 2, & 3 of the RSG2100)
12-11-0004-S4,7,8,9,10 (5 100BaseFX single mode fiber modules with 2 LC ports
each configured in slot #s 4,7,8,9 & 10 of the RSG2100)
12-11-0019-S5 (2 port GBIC module WITHOUT optical transceivers configured in
slot #5 of the RSG2100)
25-10-0100 (GBIC Pluggable Optical transceiver for 1000Base-LX single mode with
LC connector and standard 10km distance).

Item #3c:  The model number for Item #3c is the RSG2100.  The RSG2100 is a modular platform
And the unit that matches item #3b is configured with 6 10/100BaseTX ports, 10
100BaseFX Single Mode Fiber ports and a module with 2 1000Base-LX Single Mode
GBIC ports with 2 pluggable 1000Base-LX Single mode optical transceivers.  The line
items necessary to make this configuration are listed below:
12-11-0001-F  (RSG2100 Main Chassis)
12-10-0008-P1 (85-264VAC power supply for RSG2100)
14-11-0004 (Rack mount kit for RSG2100)
43-10-0007  (6 foot long 18 gauge power cable)
12-11-0002-S1,2,3 (3 10/100Base-TX modules with 2 ports each configured in
slot #s 1, 2, & 3 of the RSG2100)
12-11-0004-S4,7,8,9,10 (5 100BaseFX single mode fiber modules with 2 LC ports
each configured in slot #s 4,7,8,9 & 10 of the RSG2100)
12-11-0019-S5 (2 port GBIC module WITHOUT optical transceivers configured in
slot #5 of the RSG2100)
2 Each 25-10-0100 (GBIC Pluggable Optical transceiver for 1000Base-LX single mode with
LC connector and standard 10km distance).

Item #4:  The part number for Item #4 is RS8000-HI-SM-4-MS and it features 4 100BaseFX single
mode fiber LC ports and 4 100BaseFX multi-mode fiber MTRJ ports.  This part number
will include a power cord and 4 multimode fiber jumper cables to provide connection
from MTRJ connectors to ST connectors.

Item #5:  The basic model # for Item #5 is the RS400, but there are multiple part numbers for Item
#5 based on what type of Serial ports are necessary.  Item #5 features 2 10/100BaseTX
ports and 2 100BaseFX multi-mode fiber ports and 4 serial ports(either RS232 or RS485).
For Item #5 with 4 RS232 ports, the part number is RS400-HI-FXM-2.  For Item #5 with 4
RS485 ports, the part number is RS400-HI-FXM-4.  Either part number will include a
power cord and 1 multi-mode fiber jumper cable to provide connection to ST connectors.
**SPECIAL NOTE-there is a version of Item #5 that features 2 10/100BaseTX ports
and 2 100BaseFX Single Mode fiber ports.  This part number is listed as Item #11 on
Attachment B2**

Item #6:  This is our RS400 with the part number RS400-HI-TXTX-2 for RS232 ports and
RS400-HI-TXTX-4 for RS485 ports.

Item #7:  This is a site license of the RuggedVue software.  The site license will manage up to 2048
Ethernet devices connected to the network.

Item #12:  Item #12 is the Single Mode Fiber version of Item #5.  There are 2 part numbers for Item #12-depending on the type of serial ports needed.  The part number RS400-HI-FXS-2 features 2 10/100BaseTX ports, 2 100BaseFX Single Mode fiber ports and 4 RS232 serial ports.  The part number RS400-HI-FXS-4 features 2 10/100BaseTX ports, 2 100BaseFX Single Mode fiber ports and 4 RS485 serial ports.  Both part numbers will include a power cord to interface with a 5-15R interface.

Item #13:  Item #13 is a RS900G Field ITS Ethernet Switch with 8 10/100BaseTX copper ports and 2 1000BaseLX single mode fiber ports with LC connectors and a 10km range. The part number is RS900G-HI-D-2LC10.  The unit includes the power cord and built-in Din rail mount.

Item #14:  Item #14 is another version of the RS900G referenced above.  This model has 8 10/100BaseTX copper ports and 2 1000BaseLX single mode fiber ports with LC connectors and a 25km range.  The part number is RS900G-HI-D-2LC25.  The unit includes the power cord and built-in Din rail mount

Item #15:  Item #15 is another version of the RS900G.  This model has 8 10/100BaseTX copper Ports and has spots available for 2 1000Base SFP(Small Form-factor Pluggables/Mini-GBICs).  This base unit does NOT include the Pluggable optical transceivers.  The SFP pluggable optical transceivers are sold separately and are listed in items 15-20 further down the page.  The part number for this switch is RS900G-HI-D-2SFP.  The unit includes the power cord and built-in Din rail mount.

Item #16:  Item #16 is a single SFP Pluggable optical transceiver.  It is a Single-Mode 1000BaseLX SFP with an LC connector and a range of 10km.  This Pluggable optical transceiver is plugged into one of the SFP spots in Item #14 to give 1000BaseLX Gigabit capability over single mode fiber optic cable.  The part number is 25-10-0100.  Two pluggables can fit in the RS900G-HI-D-2SFP.

Item #17:  Item #17 is a single SFP Pluggable optical transceiver.  It is a Single-Mode 1000BaseLX SFP with an LC connector and a range of 25km.  This Pluggable optical transceiver is plugged into one of the SFP spots in Item #14 to give 1000BaseLX Gigabit capability over single mode fiber optic cable.  The part number is 25-10-0101.  Two pluggables can fit in the RS900G-HI-D-2SFP.

Item #18:  Item #18 is a single SFP Pluggable optical transceiver.  It is a Single-Mode 1000BaseLX SFP with an LC connector and a range of 40km.  This Pluggable optical transceiver is plugged into one of the SFP spots in Item #14 to give 1000BaseLX Gigabit capability over single mode fiber optic cable.  The part number is 25-10-0108.  Two pluggables can fit in the RS900G-HI-D-2SFP.

Item #19:  Item #19 is a single SFP Pluggable optical transceiver.  It is a Single-Mode 1000BaseLX SFP with an LC connector and a range of 70km.  This Pluggable optical transceiver is plugged into one of the SFP spots in Item #14 to give 1000BaseLX Gigabit capability over single mode fiber optic cable.  The part number is 25-10-0109.  Two pluggables can fit in the RS900G-HI-D-2SFP.

Item #20:  Item #20 is a single SFP Pluggable optical transceiver.  It is a Single-Mode/Single strand 1000Base SFP with a SC connector and a range of 10km.  This model uses 1310 nm for

the TX and 1490 nm for the RX.  This Pluggable optical transceiver is plugged into one of the SFP spots in Item #14 to give 1000BaseLX Gigabit capability over a single strand of single mode fiber optic cable.  The part number is 25-10-0202.  Two pluggables can fit in the RS900G-HI-D-2SFP.

Item #21:  Item #21 is a single SFP Pluggable optical transceiver.  It is a Single-Mode/Single strand 1000Base SFP with a SC connector and a range of 10km.  This model uses 1490 nm for the TX and 1310 nm for the RX.  This Pluggable optical transceiver is plugged into one of the SFP spots in Item #14 to give 1000BaseLX Gigabit capability over a single strand of single mode fiber optic cable.  The part number is 25-10-0203.  Two pluggables can fit in the RS900G-HI-D-2SFP.

Items #22-30:  Items 22 through 30 are line item parts for configuring the RSG2100 Modular Field ITS Ethernet Switch with 1000Base Gigabit uplink capability.  The RSG2100 is ordered from the factory in the desired configuration.  Each line item is listed when ordered.  The main chassis comes with 1 free power supply, but that power supply is still a line item-and thus is listed as Item #22-but with no charge.  Each of the 100Base modules provides 2 ports of either 10/100BaseTX, 100BaseFX multi-mode or 100BaseFX single mode.  These modules are installed in slots 1, 2, 3,4, 7, 8, 9, & 10 of the unit.  The part numbers for these modules end with "S*N*" where the "*N*" is the slot number the module is to be installed in.  Slot 5 is for 2 port 1000Base Gigabit modules only and Slot 6 is for 1 port 1000Base Gigabit modules only.  The details of items 21-29 continue below.

Item #22:  RSG2100 main chassis with Ethernet ports and LEDs on the front and the power cord Connection on the back.  Includes the Rack Mount kit and power cord.

Item #23:  85-264VAC power supply for the RSG2100-no charge-it is included, but must be listed as a line item when ordering.

Item #24:  Two port 10/100BaseTX module for the RSG2100.  For slots 1-4 and 7-10 only.

Item #25:  Two port 100BaseFX single mode module for the RSG2100 with LC connectors and a range of 20km.  For slots 1-4 and 7-10 only.

Item #26:  Two port 100BaseFX multi-mode module for the RSG2100 with ST connectors.  For Slots 1-4 and 7-10 only.

Item #27: 2 port 1000LX GBIC (Pluggable Gigabit Module). For Slot 5 only **\*Module only – optical transceivers sold separately.**

Item #28:  1 port 1000LX GBIC (Pluggable Gigabit Module) For Slot 6 only. **\*Module only – optical transceivers sold separately**

Item #29:  1 1000LX GBIC pluggable optical transceiver- Single Mode LC, Standard Reach 10km, 1310nm.

Item #30:  1 1000LX GBIC pluggable optical transceiver- Single Mode LC, Long Reach 25km, 1310nm.

FINET COMMODITY CODE(S):
20827000000 – COMMUNICATIONS:  NETWORKING, LINKING, ETC.